

Claims

1. An engine lubrication system having a lubricating oil pump that is rotationally driven by a crankshaft to send under pressure a lubricating oil to a part needing to be lubricated, characterized in that the lubricating oil pump is disposed so as to be connected to an end of a crankshaft in such a manner that a pump shaft aligns with the crankshaft substantially coaxially, in that an in-pump oil supply passageway is formed in the lubricating oil pump in such a manner as to pass therethrough from a side opposite to the crankshaft to a side of the crankshaft, and in that the in-pump oil supply passageway so formed is made to communicate at one end thereof with an in-crankshaft oil supply passageway formed in the crankshaft for supplying a lubricating oil to a part of the crankshaft which needs to be lubricated and is made to communicate at the other end thereof with a discharge port of the lubricating oil pump via a lubricating oil passageway.

2. An engine lubrication system as set forth in Claim 1, characterized in that the in-pump oil supply passageway is formed in the pump shaft, in that the pump shaft and the crankshaft are connected together with a coupling which can absorb a displacement of the shafts in a direction normal thereto, in that a connecting pipe is interposed between the pump shaft and the crankshaft in such a manner as to absorb the displacement

of the shafts in the direction normal thereto, and in that the in-crankshaft oil supply passageway and the in-pump oil supply passageway are made to communicate with each other by the connecting pipe.

3. An engine lubrication system as set forth in Claim 1 or 2, characterized in that the lubricating oil pump is attached to a crankcase cover detachably and is covered with a pump cover that is attached to the crankcase cover detachably.

4. An engine lubrication system as set forth in Claim 3, characterized in that an oil filter is provided at an intermediate position along the length of the lubricating oil passageway, in that the oil filter is constructed such that an element is disposed in a filter compartment defined by the crankcase cover and a filter cover attached to the crankcase cover detachably, in that a part of the lubricating oil passageway situated between the discharge port of the lubricating oil pump and the oil filter is formed on the crankcase cover, and in that a part of the lubricating oil passageway situated between the oil filter and the in-pump passageway is formed on the filter cover which covers the oil filter detachably.

5. An engine lubrication system as set forth in Claim 4, characterized in that the pump cover and the filter cover are integrally formed.

6. An engine lubrication system as set forth in Claim 4 or

5, characterized in that a passageway on a pick-up side of the lubricating oil pump and a part of the lubricating oil passageway that is situated on a downstream side of the oil filter are made to communicate with each other via a pressure regulating relief valve.